



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 0 979 636 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
14.06.2000 Bulletin 2000/24

(51) Int. Cl.⁷: **A61B 17/15, A61B 17/02**

(43) Date of publication A2:
16.02.2000 Bulletin 2000/07

(21) Application number: 99306323.9

(22) Date of filing: 10.08.1999

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 11.08.1998 US 132279

(71) Applicant:
**Johnson & Johnson Professional, Inc.
Raynham, Massachusetts 02767-0350 (US)**

(72) Inventors:
• Eng, Lianne
North Attleboro, Massachusetts 02760 (US)
• Collieran, Dennis
Plainville, Massachusetts 02767 (US)
• Slamin, John
Wrentham, Massachusetts 02093 (US)

(74) Representative:
**Fisher, Adrian John
CARPMAELS & RANSFORD
43 Bloomsbury Square
London WC1A 2RA (GB)**

(54) **Femoral ligament tensing and prosthesis sizing device**

(57) A tool for preparing a bone end for prosthetic joint replacement. The tool rests on a resected end of one bone of an articulating joint set, and includes a jack assembly for supporting an opposing bone of the set in flexion while the bone ends remain attached together by ligaments. The jack pivotally supports the opposing bone and raises it to the spacing of the intended prosthesis to allow the surgeon to balance soft tissue tension. This support allows the bone to rotate under the tension of the connecting ligaments, into natural alignment while a template carried by the jack assembly lies against the prepared end, so subsequent cuts are in correct rotational alignment and the bone enjoys a natural posture when the joint components are attached. Preferably, a sizing jig in the tool contacts the bone to determine an offset, and a positioning block coupled to the sizing jig confirms the size, and positions drill holes on the bone surface contacted by the jig to set the orientation for attaching a cutting block. The sizing jig may include a template for indicating the size of a required joint component, and the jack may support the bone on an intramedullary rod. In one embodiment, the jack moves a gimbaled assembly which fits about the intramedullary rod, allowing the template to rest flat against the resected bone end. Preferably, the device places drill holes in position for a cutting block to fit a femoral end component of a prosthetic knee.

BEST AVAILABLE COPY

EP 0 979 636 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 30 6323

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	EP 0 809 969 A (HOWMEDICA) 3 December 1997 (1997-12-03) * the whole document *	1-3,5	A61B17/15 A61B17/02
A	US 4 574 794 A (SAUNDERS GERALD A B ET AL) 11 March 1986 (1986-03-11) * the whole document *	1	
A	US 5 514 143 A (BONUTTI PETER M ET AL) 7 May 1996 (1996-05-07) * the whole document *	1	
A	EP 0 720 834 A (BOOTH ROBERT E JR ;SQUIBB BRISTOL MYERS CO (US)) 10 July 1996 (1996-07-10) * the whole document *	1	
A	US 5 649 928 A (GRUNDEI HANS) 22 July 1997 (1997-07-22) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A61B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26 Apr11 2000	Examiner Vere1st, P
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1603 (03.02.92) (P04001)

BEST AVAILABLE COPY

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 30 6323

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-04-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0809969 A	03-12-1997	CA 2206013 A	28-11-1997
		JP 10137273 A	26-05-1998
		US 5911723 A	15-06-1999
US 4574794 A	11-03-1986	CA 1231017 A	05-01-1988
US 5514143 A	07-05-1996	NONE	
EP 0720834 A	10-07-1996	US 5540696 A	30-07-1996
		AU 6998893 B	17-12-1998
		AU 4075195 A	18-07-1996
		CA 2165933 A	07-07-1996
		CN 1132067 A	02-10-1996
		DE 69602624 D	08-07-1999
		DE 69602624 T	21-10-1999
		JP 8229058 A	10-09-1996
		US 5688280 A	18-11-1997
US 5649928 A	22-07-1997	DE 4423717 C	04-01-1996
		DE 59501095 D	22-01-1998
		EP 0691110 A	10-01-1996
		ES 2109754 T	16-01-1998

EPO FORM P449

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82